This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) In a cellular radio system that transmits data from an IP-based network, through a base station controller (BSC) and any Base Station Transceiver (BTS) controlled by the BSC, to a plurality of active subscriber units, which are in radio communication with the BTS and in a data connection state, ~~the~~ data transmission from the BTS to any active subscriber unit at any time being at one of a plurality of given transmission rates and at a defined power level, relative to a maximum total power transmittable by the corresponding BTS; ~~the power level is associated with said transmission rate and is a product of a specific power and a multiplier, the specific power being the power level of transmission to the subscriber unit at a given fundamental data rate and said multiplier having a fixed direct relation to the associated transmission rate~~

a method for estimating the specific power of transmission from the BTS to each of the active subscriber units at any given time, the method comprising:

(i) defining in time a succession of observation windows;

(ii) observing the data flowing into the BSC and addressed to each of the active subscribers and, for each subscriber, measuring ~~the~~ an amount of such data flowing during each of a plurality of said observation windows, obtaining measured amounts;

computing an average rate multiplier for each active subscriber; and

(iv) calculating ~~from~~ using said measured amounts an estimated specific power for each of the subscribers where the total power transmitted by the BTS during each of a plurality of said observation windows is equal to the sum of products of the average rate multiplier by the estimated specific power for each of the subscribers.

2. (original) The method of claim 1, wherein the duration of each observation window is an integral multiple of allocation time slots.

3. (original) The method of claim 1, wherein said plurality of windows is N windows, where N is equal to the number of active subscriber units.

4. (original) The method of claim 3, wherein said calculating includes solving N simultaneous equations.

5. (original) The method of claim 4, wherein the N equations are linear equations having N unknowns and NxN coefficients, the unknowns being proportional to specific power values of respective subscriber units and the coefficients being proportional to corresponding results from said measuring.

6. (cancelled)

7. (cancelled)

8. (currently amended) The method of claim 1, further serving to schedule the transmission of data from the BTS to the active subscribers and further comprising:

(iv) using said estimated specific power of all the subscriber units to schedule data transmission to the subscribers

9. (currently amended) The method of claim 1, further serving to control data flow into the BSC and further comprising:

(v) using the results of said estimation to control the flow into the BSC of data addressed to the active subscriber units.

10. (currently amended) An apparatus connectable to a data ingress port of a base station controller (BSC) of a cellular radio system that transmits data from an IP-based network, through the BSC and any Base Station Transceiver (BTS) controlled by the BSC, to a plurality of active subscriber units, which are in radio communication with the BTS and in a data connection state, the data transmission from the BTS to any active subscriber unit at any time being at one of a plurality of given transmission rates and at a defined power level, relative to a maximum total power transmittable by the corresponding BTS; the power level is associated with said transmission rate and is a product of a specific power and a multiplier, the specific power being the power level of transmission to the subscriber unit at a given fundamental data rate and said multiplier having a fixed direct relation to the associated transmission rate—

said apparatus serving to control the transmission of data from the BTS to the active subscriber units and comprising a power estimator, including a processor operative configured—

to define in time a succession of observation windows;

to observe the data flowing into the BSC and addressed to each of the subscribers and, for each subscriber, to measure the an amount of such data flowing during each of a plurality of said observation windows;

to compute an average rate multiplier for each active subscriber;

and to calculate, from using any results of said measuring, an estimated specific power for each of the subscriber units where the total power transmitted by the BTS during each of a plurality of said observation windows is equal to the sum of products of the average rate multiplier by the estimated specific power for each of the subscribers.

11. (original) The apparatus of claim 10, further comprising a scheduler, responsive to said estimated specific power values and operative to schedule data transmission from the BTS to the active subscriber units.

12. (original) The apparatus of claim 10, wherein the scheduler is further operative to calculate from said estimated specific power values predicted power values.

13. (original) The apparatus of claim 10, further comprising a data flow controller, responsive to said scheduling and operative to control the flow into the BSC of data addressed to the active subscriber units.

14. (currently amended) A cellular radio system, including at least one base station controller (BSC) and at least one Base Station Transceiver (BTS), controlled by any of the BSCs, and operative to transmit data from an IP-based network, through any BSC and any BTS controlled by it, to a plurality of active subscriber units, which are in radio communication with the BTS and in a data connection state, ~~the~~ data transmission from the BTS to any active subscriber unit at any time being at one of a plurality of given transmission rates and at a defined power level, relative to a maximum total power transmittable by the corresponding BTS; ~~the power level is associated with said transmission rate and is a product of a specific power and a multiplier, the specific power being the power level of transmission to the subscriber unit at a given fundamental data rate and said multiplier having a fixed direct relation to the associated transmission rate~~—

the system comprises a power estimator, having access to data flowing into the BSC and <u>includes a processor</u> ~~operative~~ <u>configured</u>——

to define in time a succession of observation windows;

to observe the data flowing into the BSC and addressed to each of the subscribers and, for each subscriber, to measure ~~the~~ an amount of such data flowing during each of a plurality of said observation windows;

to compute an average rate multiplier for each active subscriber;

and to calculate, ~~from~~ using the results of said measuring, an estimated specific power for each of the subscribers where the total power transmitted by the BTS during each of a plurality of said observation windows is equal to the sum of products of the average rate multiplier by the estimated specific power for each of the subscribers.

Amendments to the Drawings:

Figure 3 has been amended to improve quality to show power of each of subscribers A-E in the columns for time slots, as indicated by the corresponding legend.

Figure 6 has been amended to improve quality to show power of each of the subscribers A-E in the columns for the observation windows.

Figure 4 has been amended to include the reference sign(s) 42 and 44. Each of these reference signs is described in the specification for example on page 13.

Attachment: Replacement Sheets 1-3

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